

REMARKS

Summary of Claim Status

Claims 1-12 and 14-17 are pending in the present application after entry of the present amendment. Applicant has canceled Claim 13, thereby rendering its rejection moot. Claims 1-12 and 14-17 are rejected for the reasons discussed below.

Applicant respectfully requests favorable reconsideration of the claims and withdrawal of the pending rejections in view of the present amendment and in light of the following discussion.

Rejections Under 35 U.S.C. § 102

Claims 1-3, 7-11, and 14-17 are rejected under 35 U.S.C. § 102(e) as being anticipated by Lindholm et al., U.S. Patent No. 6,553,523 ("Lindholm"). Applicant respectfully disagrees and traverses the rejection with regard to all claims. Applicant submits that Lindholm does not teach or even suggest the claimed invention.

With respect to Claim 1, the Examiner stated that "read back plays the role of capturing." Thus, the Examiner alleges that the step of capturing configuration process signals in the programmable logic device corresponds to the read back described in Lindholm. Applicant respectfully disagrees. As is well-known to those of ordinary skill in the art, "read back" in the context of programmable logic devices (PLDs) generally means reading back configuration data stored in a PLD. That is, a PLD generally stores some configuration data that determines the functionality of the PLD. See, e.g., Lindholm at col. 6, lines 12-19. The readback data described in Lindholm represents data that is read from the PLD, which in Lindholm may be used to verify the configuration of the PLD. See, e.g., Lindholm at col. 6, lines 43-52.

In other words, a PLD generally includes some memory, often referred to as configuration memory. A bitstream of configuration data is written to and stored in the configuration memory during the process of configuration. Thus, configuration of a PLD may be thought of generally as a "write" to a configuration memory. A readback operation, on the other hand, may be thought of as a "read" of the configuration memory. For example, one may read back the configuration data stored in the configuration memory to verify that the correct data has been stored.

In contrast, Claim 1 recites a step of "capturing configuration process signals." As described above, read back is separate from the configuration process. That is, the configuration process may correspond to writing a memory, whereas read back may correspond to reading a memory. Thus, read back could not play the role of capturing configuration process signals, as recited in Claim 1, since read back is entirely separate from the configuration process. Read back is generally used to verify configuration after the configuration process has completed. In contrast, the present invention allows for debugging the configuration process itself, which as noted in the specification is a difficult problem.

Therefore, for at least the foregoing reasons, Applicant believes Claim 1 is allowable, and respectfully requests allowance of Claim 1.

Claim 16 recites code sections executable by a machine for causing the machine to perform the step of capturing configuration process signals in the programmable logic device. As noted above, read back cannot possible correspond to capturing configuration process signals. In fact, read back does not involve any capturing of any signals, and is merely reading a memory. Therefore, Applicant believes Claim 16 is also allowable, and respectfully requests allowance of Claim 16.

Claim 17 recites a means for capturing configuration process signals. Again, as noted above, read back is a read of a memory, and thus cannot possible correspond to a means for capturing configuration process signals. Therefore, Applicant believes Claim 17 is also allowable and respectfully requests allowance of Claim 17.

Claims 2-3 and 7-8 depend from Claim 1, and thus include all of the limitations of Claim 1. Applicant believes Claim 1 is allowable for the reasons set forth above. Therefore, for at least the same reasons, Applicant believes Claims 2-3 and 7-8 are also allowable, and respectfully requests allowance of such claims.

With respect to Claim 9, Applicants have amended the claim to recite that the programmable logic device, the configuration device, and the analyzer form at least part of a JTAG chain. Lindholm does not appear to teach or disclose any JTAG chain. In fact, the term JTAG, or any similar term, is not even mentioned in Lindholm. Furthermore, none of the cited references apparently teaches a combination including a programmable logic device, a configuration device, and an analyzer that form at

least part of a JTAG chain as recited in Claim 9. Therefore, Applicant believes Claim 9, as amended, is allowable, and allowance of Claim 9 is respectfully requested.

Claims 10-11 and 14-15 depend from Claim 9, and thus include all of the limitations of Claim 9. Applicant believes Claim 9 is allowable for the reasons set forth above. Therefore, for at least the same reasons, Applicant believes Claims 10-11 and 14-15 are also allowable, and respectfully requests allowance of such claims.

All of the above amendments are fully supported by the specification, for example in Figure 3 and the corresponding text.

Rejections Under 35 U.S.C. § 103

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindholm in view of Turner et al., U.S. Patent No. 6,629,311 ("Turner"). Applicant respectfully disagrees and traverses the rejection. Applicant submits that Lindholm and Turner, alone or in any combination, do not teach or even suggest the claimed invention. In particular, as noted above with respect to Claim 1, Lindholm fails to teach capturing configuration process signals, and Turner does not overcome the deficiencies of Lindholm. Therefore, Applicant believes Claim 4 is allowable and respectfully requests allowance of Claim 4.

Claims 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindholm in view of Turner, and further in view of "JTAG Boundary Scan Basics White Paper (the "JTAG White Paper"). Applicant respectfully disagrees and traverses the rejection. Applicant submits that Lindholm, Turner, and the JTAG White Paper, alone or in any combination, do not teach or even suggest the claimed invention. In particular, as noted above with respect to Claims 1 and 4, Lindholm fails to teach capturing configuration process signals, and Turner and the JTAG White Paper do not overcome the deficiencies of Lindholm. Therefore, Applicant believes Claims 5 and 6 are allowable and respectfully requests allowance of Claims 5 and 6.

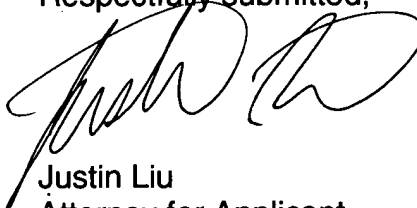
Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindholm in view of Khu, U.S. Patent No. 5,805,607 ("Khu"). Applicant respectfully disagrees and traverses the rejection. Applicant submits that Lindholm and Khu, alone or in any combination, do not teach or even suggest the claimed invention. In

particular, as noted above with respect to Claim 9, Lindholm fails to teach a programmable logic device, a configuration device, and an analyzer that form at least part of a JTAG chain, and Khu does not overcome the deficiencies of Lindholm. Therefore, Applicant believes Claim 12 is allowable and respectfully requests allowance of Claim 12.

Conclusion

No new matter has been introduced by any of the above amendments. In light of the above amendments and remarks, Applicant believes that Claims 1-12 and 14-17 are in condition for allowance, and allowance of the application is therefore requested. If action other than allowance is contemplated by the Examiner, the Examiner is respectfully requested to telephone Applicant's attorney, Justin Liu, at 408-879-4641.

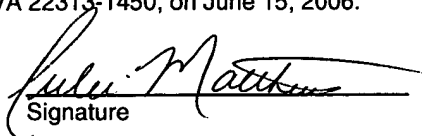
Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on June 15, 2006.

Julie Matthews
Name


Signature